

**OTHER SUBJECTS** currently scheduled:

**LIST PROCESSING & STRUCTURED DATA:**  
Introduction to use of symbolic programming in commercial data processing. Washington, D.C. June 7-8-9.

**MULTI-PROGRAMMING** in continuous processing operating systems. New York City, May 24-25-26.



The revolutionary nature of computer-based methods has made education an integral part of C-E-I-R operations. This relationship is formalized through the Institute for Advanced Technology. IAT faculty members are drawn primarily from the ranks of C-E-I-R's professional and computer operations staffs. Its curriculum is drawn from subjects in which C-E-I-R staff members are recognized for excellence. Sharing these new skills through seminars in major cities, management clinics, and special, in-plant training programs is the major goal of the Institute for Advanced Technology.

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## Monte Carlo Techniques

A one-day seminar for systems analysts and operations research practitioners designed to provide a general methodology to study practical problems which are generally too complex for standard analytical techniques. Emphasis will be placed on a basic understanding of the technique and its fundamental

assumptions with particular reference to applications in the management sciences. Various examples provide the vehicle to illustrate the salient points of the day's material. Provision is made for general discussion after a short description of various available simulation programming techniques. Some prior exposure to the management sciences and an understanding of college mathematics are required for full benefit from this seminar.

## Course Outline

### INTRODUCTION

- Monte Carlo as a Subset of Simulation Techniques
- Uses of Simulation Techniques
- Stochastic Nature of Simulation
- Simulation vs. Analysis

### RANDOM NUMBER GENERATION

- Randomness Defined
- Statistical Distributions
- Correlated Samples
- Sources of Random Numbers

### ANALYSIS OF SIMULATION PROCESSES

- Parameter Estimates
- Variance Reducing Techniques
- Sample Size Reducing Techniques

### EXAMPLES OF SIMULATION STUDIES

- Queuing Problems
- Network (PERT type) Analyses
- Inventory Decision Rules

### SIMULATION LANGUAGES

- Simscript
- GPSS
- SOL

### GENERAL DISCUSSION



**Lecturer:** Dr. Jack Moshman is a Vice President of C-E-I-R, Inc., an independent analytic research and data processing organization, and head of the firm's Applied Research and Management Sciences Division. Formerly with Bell Telephone Laboratories and the Atomic Energy Commission, he has written fundamental research papers on the application of statistical design techniques to experimentation and simulation and Monte Carlo studies on high speed digital computers. He holds a B.A. in Mathematics from New York University, an M.A. in Mathematical Statistics from Columbia University, and a Ph.D. in Mathematics from the University of Tennessee.

**REGISTRATION:** Tuition, including lunch, and the text, "The Art of Simulation," by K. D. Tocher, is \$95 for one student and \$85 for others from the same organization. Class begins at 9 a.m. and ends at 5 p.m. Hotel rooms are not included.

## HOTEL ACCOMMODATIONS:

The seminar is at the Hospitality House, 2000 Jefferson Davis Highway in Arlington, Virginia, near the Washington National Airport. A block of rooms will be held through May 10 for participants arriving May 18.

## Seminar Registration:

To register, fill in the post card registration form below, clip and mail. No postage is required. If payment is made in advance, make check payable to C-E-I-R, Inc.

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REGISTER ME FOR: Monte Carlo Techniques

☐ Arlington, Va.—May 19

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